APPENDIX F

ADJUSTING RISK FACTOR RATINGS AMONG MULTIPLE CSCIs

1. There may be occasions during the use of SPECS where the risk factor rating for a single element (e.g. Programmer Capability may vary significantly among the multiple CSCIs of a contract. Since the SPECS uses the COCOMO/REVIC estimating paradigm, the assignment of CSCIs into SPECS structure as contracts can cause significant errors in the estimated surveillance efforts and length of surveillance times.

2. The following methodology can assist you in arriving at a weighted risk factor rating based on the amount of SLOC in the CSCI and the rating of the individual CSCI.

    a. List all of the CSCIs and the amount of SLOC contained in each. If a CSCI has modified code, use the SLOC help facility of SPECS to calculate the equivalent SLOC. Divide all of the CSCI SLOC counts by the lowest value. This value will be used to multiply against the risk value.

CSCI	SLOC	SLOC/SMALLEST
CSCI 1	172,000	172000/64000 = 2.7
CSCI 2	64,000	64000/64000 = 1.0
CSCI 3	346,000	346000/64000 = 5.4
CSCI 4	93,000	93000/64000 = 1.5
		10.6

    b. Determine the scale of the risk factor you are evaluating. Use the number as appropriate to multiply against the SLOC weighting as calculated above. In this case, we will assume that we are calculating the value for the risk element product complexity, which would use the second scale.

VL	LO	NM	NM	HI	VH	XH
1	2	3	1	2	3	4

CSCI	RISK	RATING FACTOR	RISK RATING X SLOC FACTOR
CSCI 1	HI	2	2.7 x 2 = 5.4
CSCI 2	VH	3	1.0 x 3 = 3.0
CSCI 3	XH	4	5.4 x 4 = 21.6
CSCI 4	NM	1	1.5 x 1 = 1.5
			31.5

    c. Divide the sum of the products in step 2.b by the sum of the quotients in step 1.

       31.5/10.6 = 2.97   which rounds to 3

    d. Apply this value derived in step 2.c to the appropriate scale shown in step 2, to determine which risk factor to enter in SPECS. Since we were using the second scale, the value 3 equates to a VH factor rating for the risk element product complexity. Enter this value in SPECS for the contract in the Environmental Factors Screen.